

REMARKS

Attached hereto is a marked-up version of the changes made to the application by the present Amendment.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. LUS/12520.

Respectfully submitted,

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Attachment: Marked-up version of Amendments

09868115 061401

IN THE SPECIFICATION:

The paragraph beginning on page , line , has been amended as follows:

IN THE CLAIMS:

The claims have been amended as follows:

1. (Amended) ~~[Method]~~ A method of bone cement preparation from a polymeric powder and a liquid component, comprising a polymerisable monomer or comonomer, by ~~[the]~~ action of a catalytic system, whereby ~~[the]~~ particles of said powder component are packed in a powder container (7;35) with an inlet port (8) and an outlet port (9) and the liquid component is held in a liquid container (11), ~~[characterized in that]~~ comprising the steps of:

~~[A)]~~ A) completely filling said powder container (7;35) ~~[is completely filled]~~ with said polymeric powder;

B) ~~[the]~~ connecting said liquid container (11) ~~[is connected]~~ to said inlet port (8); ~~[and]~~

C) connecting a vacuum source (10) ~~[is connected]~~ to said outlet port (9); ~~[whereby]~~

and,

~~[D)]~~ D) completely flooding a void space between said particles of said powder component ~~[is flooded by]~~ with said liquid component, said liquid component flowing from said inlet port (8) in ~~[the direction of]~~ toward said outlet port (9) by the action of the vacuum source (10).

2. (Amended) ~~[Method]~~ A method of bone cement preparation from a polymeric powder and a liquid component, comprising a polymerisable monomer or comonomer, by ~~[the]~~ action of a catalytic system, whereby ~~[the]~~ particles of said powder component are packed in a powder container (7;35) with an inlet port (8) and an outlet port (9) and the liquid component is held in a liquid container (11), ~~[characterized in that]~~ comprising the steps of:

~~[A)]~~ A) packing said powder in said powder container (7;35) ~~[is packed]~~ to a fractional porosity of ~~[0,30]~~ 0.30 to ~~[0,43]~~ 0.43;

B) connecting the liquid container (11) ~~[is connected]~~ to said inlet port (8); ~~[and]~~

C) connecting a vacuum source (10) ~~[is connected]~~ to said outlet port (9); ~~[whereby]~~

and,

D) flooding the void space between said particles of said powder component ~~[is flooded]~~ by said liquid component, said liquid component flowing from said inlet port (8) ~~[in the direction of]~~ toward said outlet port (9) by the action of the vacuum source (10).

3. (Amended) ~~[Method]~~ The method according to claim 1 ~~[or 2, characterized in that]~~, wherein the catalytic system comprises benzoyl peroxide, said benzoyl peroxide being preferably contained within said particles.

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4. (Amended) ~~{Method}~~ The method according to ~~{one of the claims 1 to 3,~~
~~characterized in that}~~ claim 1, wherein said upstream inlet port (8) and said downstream outlet
port (9) of said container (7) allow ~~{for the passage of}~~ air and liquid to pass thereby, but not
~~{of said}~~ powder.

5. (Amended) ~~{Method}~~ The method according to ~~{one of the claims 1 to 4,~~
~~characterized in that}~~ claim 1, wherein said powder container (7;35) is inflexible~~[-preferably]~~
and in the form of a syringe (13).

6. (Amended) ~~{Method}~~ The method according to ~~{one of the claims 1 to 5,~~
~~characterized in that}~~ claim 1, wherein said powder in said powder containing compartment
(35) is packed to a fractional porosity of ~~{0,34}~~ 0.34 to ~~{0,38}~~ 0.38.

7. (Amended) ~~{Method}~~ The method according to claim 6, ~~{characterized in that}~~
wherein said
powder in said powder containing compartment (35) is packed to a fractional porosity of
~~{0,35}~~ 0.35 to ~~{0,37}~~ 0.37.

8. (Amended) ~~{Method}~~ The method according to ~~{one of the claims 1 to 7,~~
~~characterized in that}~~ claim 1, wherein said powder component is flooded by said liquid
component in 15 to 60 seconds.

9. (Amended) ~~{Method}~~ The method according to claim 8, ~~{characterized in that}~~
wherein said powder component is flooded by said liquid component in 25 to 35 seconds.

10. (Amended) ~~{Method}~~ The method according to ~~{one of the claims 1 to 9,~~
~~characterized in that}~~ claim 1, wherein the flow of said liquid component is controlled by a
valve (12) interposed between said liquid container (11) and said inlet port (8).

11. (Amended) ~~{Method}~~ The method according to ~~{one of the claims 1 to 10,~~
~~characterized in that}~~ claim 1, wherein flooding of said powder component by said liquid
component is followed by swelling, draining of excess liquid component and extrusion of the
mixed components.

12. (Amended) ~~{Method}~~ The method according to ~~{one of the claims 1 to 11,~~
~~characterized in that}~~ claim 11, wherein said draining of excess liquid is effected by a piston
(39) contained in a vacuum pump (37).

13. (Amended) ~~{Method}~~ The method according to ~~{one of the claims 1 to 12,~~
~~characterized in that}~~ claim 1, wherein said inlet port (8) comprises a mesh (19) which ~~{does~~
~~not allow for}~~ prevents passage of said powder particles, but ~~{does allow for}~~ allows passage of
said liquid.

14. (Amended) ~~{Method}~~ The method according to ~~{one of the claims 1 to 13,~~
~~characterized in that}~~ claim 1, wherein said outlet port (9) comprises a narrow gap (25)

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~~[which]~~ that substantially blocks passage of said powder particles, but allows for passage of air and said liquid.

15. (Amended) ~~[Method]~~ The method according to claim 14, ~~[characterized in that]~~ wherein the narrow gap (25) is smaller than 50 μ .

16. (Amended) ~~[Method]~~ The method according to claim 14, ~~[characterized in that]~~ wherein the narrow gap (25) is smaller than 3 times ~~[the]~~ an average diameter of said particles of said powder component.

17. (Amended) ~~[Method]~~ The method according to ~~[one of the claims 1 to 16; characterized in that]~~ claim 1, wherein said polymerisable monomer or comonomer comprises methyl-methacrylate, ethyl-methacrylate or butyl-methacrylate or mixtures thereof.

18. (Amended) ~~[Method]~~ The method according to ~~[one of the claims 1 to 17; characterized in that]~~ claim 1, wherein said vacuum source (10) generates a vacuum in the range of 10 to 200 mbar.

19. (Amended) ~~[Method]~~ The method according to claim 18, ~~[characterized in that]~~ wherein the vacuum source (10) generates a vacuum in the range of 50 to 100 mbar.

20. (Amended) ~~[Bone]~~ A bone cement mixture obtained by the method according to ~~[one of the claims 1 to 19]~~ claim 1.

21. (Amended) ~~[Apparatus]~~ An apparatus for performing the method according to ~~[one of the claims 1 to 19; characterized by]~~ claim 1, comprising:
A) a powder container (7) with an inlet port (8) and an outlet port (9), said powder container (7;35) being completely filled with a polymeric powder;
B) a liquid container (11) ~~[, whereby said liquid container contains]~~ containing a liquid component comprising a polymerisable monomer or comonomer; whereby
C) said liquid container (11) is connectable to said inlet port (8);
D) said outlet port (9) is connectable to a vacuum source (10); and;
E) ~~[the]~~ a void space between said particles of said powder component is floodable by said liquid component through said inlet port (8) in the direction of said outlet port (9) by the action of ~~[the]~~ a vacuum source (10).

22. (Amended) ~~[Apparatus]~~ An apparatus for performing the method according to ~~[one of the claims 1 to 19; characterized by]~~ claim 1, comprising:
A) a powder container (7) with an inlet port (8) and an outlet port (9), said powder container (7;35) containing a polymeric powder, whereby said powder in said powder container (7;35) is packed to a fractional porosity of ~~[0.30]~~ 0.30 to ~~[0.43]~~ 0.43;
B) a liquid container (11) ~~[, whereby said liquid container contains]~~ containing a liquid component comprising a polymerisable monomer or comonomer; whereby
C) said liquid container (11) is connectable to said inlet port (8);

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D) said outlet port (9) is connectable to a vacuum source (10); and;
E) ~~the~~ wherein a void space between said particles of said powder component is floodable by said liquid component through said inlet port (8) in the direction of said outlet port (9) by the action of the vacuum source (10).

23. (Amended) ~~Apparatus~~ The apparatus according to claim 21, wherein ~~for 22,~~
~~characterized in that~~ it comprises ~~a~~ the vacuum source (10).

24. (Amended) Apparatus according to claim 23, ~~characterized in that~~ wherein said vacuum source (10) is an evacuated can (44).

25. (Amended) Apparatus according to claim 23, ~~characterized in that~~ wherein said vacuum source (10) is an evacuated piston (45).

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